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09/822,822	04/02/2001	Shinichi Baba	004900.00001	8088

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EXAMINER

JONES, PRENELL P

ART UNIT	PAPER NUMBER
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2616

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/822,822

Applicant(s)

BABA ET AL.

Examiner

Prenell P. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 15 and 22-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 15 and 22-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Response to Arguments

1. Applicant's arguments with respect to claims 1-8, 15 and 22-46 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1, 2, 15, 22, 29 and 30 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure, which goes to make up the device, must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. In addition, the metes and bounds are not clear; for example;

Regarding claim 1, is claim 1 a system claim or base station claim, and what is the structure or elements that make up the system?

Regarding claim 2, is claim 2 a mobile terminal claim or base station claim, and what is the structure or elements that make up the system?

The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

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Regarding claims 15, 22, 29 and 30, the limitations associated with independent claims 15, 22, 29 and 30; are not positive limitations because Applicant does **not provide concrete method steps for performing a function**. Applicants presented claims are vague and indefinite. Examiner is not clear as to what Applicant is claiming as his invention. Claims 42, 43, 45 and 31-35 respectively depend on claims 15, 22, 29 and 30 respectively therefore claims 42, 43, 45 and 31-35 are rejected as well.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 15, 22, 29, 40, 43 and 46 rejected under 35 U.S.C. 102(b) as being anticipated by Perkins et al (Non-Patent Literature).

Regarding claims 1, 2, 15, 22 and 29, Perkins discloses optimizing smooth handoffs in an mobile IP environment wherein the architecture includes encapsulation and de-capsulation (section 2, page 344, left and right column), mobile IP tunneling and re-transmission (IP-in-IP encapsulation) (section 3.1) between a first FA/base station and a second FA/base, mobile/source and a mobile host, wherein a mobile host is serviced by both first and second FA (Fig. 1-3 and section 4.1).

Regarding claim 40, 43 and 46, Perkins further discloses simultaneous transmission of devices (page 340, Introduction).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3, 4, 6-8, 23-28, 30, 31, 33-38, 41, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al (Non-Patent Literature) in view of Comstock (US Pat 6,452,920) and Woo et al (Non-Patent Literature).

Regarding claims 3, 4, 6-8, 30, 31, 33-36 and 41, as indicated above, Perkins discloses optimizing smooth handoffs in an mobile IP environment wherein the architecture includes encapsulation and de-capsulation (section 2, page 344, left and right column), mobile IP tunneling and re-transmission (IP-in-IP encapsulation) (section

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3.1) between a first FA/base station and a second FA/base, wherein a mobile is serviced by both first and second FA, and (Fig. 1-3 and section 4.1).

Although Perkins is not specific on encapsulating packets with a header and removing header from packet and transmitting from both first base station and second base station while soft handoff is being communicated.

In a mobile IP environment, Comstock discloses tunneling between two base stations (HA and FA) wherein in a the communication between correspondent node, mobile node, home agent includes encapsulation and de-encapsulation of packet data, which includes a process of adding IP headers and stripping of the IP header as it is associated with encapsulation process and the transmission of packets to mobile node or agent, whereby transmission is via connection link/handoff (col. 5, line 8-56, col. 6, line 7-33), and Woo, who also discloses handoff enhancement in a mobile IP environment wherein the tunneling between HA, FA, MH and corresponding host includes encapsulation and de-encapsulation processing wherein encapsulation is removed and data-grams are forwarded to MH (Fig. 1 and Fig. 2, page 760, right column), whereby encapsulation occurs during handoff, data-grams associated with encapsulation and de-encapsulation process are transmitted during hand-off (page 761, right column, page 762, column right and left). Woo further discloses that the enhanced hand-off scheme is also considered in low hand-off rates/soft hand-offs (page 764, right column).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement performing encapsulating packets with a header and removing header from packet and transmitting from both first base station and second base station while soft handoff is being communicated as disclosed

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by the combined teachings of Comstock and Woo with the teachings of Perkins for the purpose of further improving handoffs in a mobile IP environment.

Regarding claim 23-28, 37 and 38, as indicated above, combined Perkins, Comstock and Woo discloses optimizing smooth handoffs in an mobile IP environment wherein the architecture includes encapsulation and de-capsulation (section 2, page 344, left and right column), mobile IP tunneling and re-transmission (IP-in-IP encapsulation) (section 3.1) between a first FA/base station and a second FA/base, wherein a mobile is serviced by both first and second FA, encapsulation and de-encapsulation of packet data, which includes a process of adding IP headers and stripping of the IP header as it is associated with encapsulation process and the transmission of packets to mobile node or agent, whereby transmission is via connection link/handoff, handoff enhancement in a mobile IP environment wherein the tunneling between HA, FA, MH and corresponding host includes encapsulation and de-encapsulation processing wherein encapsulation is removed and data-grams are forwarded to MH, whereby encapsulation occurs during handoff, data-grams associated with encapsulation and de-encapsulation process are transmitted during hand-off.

Although Perkins and Woo are not clear on encapsulating packet with a new header (second, third, fourth, and so on), Comstock further discloses the implementation of a new header, as it is associated with the tunneling of packets/encapsulation (col. 2, line 55-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement encapsulating packet with a new header as taught by Comstock with the combined teachings of Perkins and Woo for the

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purpose of further improving handoff in an mobile IP environment, so that the new header acts as a shield to minimize interference.

Regarding claim 39 and 42, as indicated above, combined Perkins, Comstock and Woo discloses optimizing smooth handoffs in an mobile IP environment wherein the architecture includes encapsulation and de-capsulation (section 2, page 344, left and right column), mobile IP tunneling and re-transmission (IP-in-IP encapsulation) (section 3.1) between a first FA/base station and a second FA/base, wherein a mobile is serviced by both first and second FA, encapsulation and de-encapsulation of packet data, which includes a process of adding IP headers and stripping of the IP header as it is associated with encapsulation process and the transmission of packets to mobile node or agent, whereby transmission is via connection link/handoff, handoff enhancement in a mobile IP environment wherein the tunneling between HA, FA, MH and corresponding host includes encapsulation and de-encapsulation processing wherein encapsulation is removed and data-grams are forwarded to MH, whereby encapsulation occurs during handoff, data-grams associated with encapsulation and de-encapsulation process are transmitted during hand-off.

Although Perkins and Comstock are not clear on monitoring delay between messages, Woo further discloses monitoring end-to-end delays associated with messaging and registration (page 761, right column, page 762, left column, page 763.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement monitoring end-to-end delay (delay between messages) as taught by Woo with the combined teachings of Perkins and Comstock for the purpose of further improving handoffs in a mobile IP environment.

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3. Claim 5 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al (Non-Patent Literature) in view of Comstock (US Pat 6,452,920) and Woo et al (Non-Patent Literature) as applied to claim 1 above, and further in view of La Porta et al (US PG PUB 20020057657).

Regarding claim 5 and 32, as indicated above, combined Perkins, Comstock and Woo discloses optimizing smooth handoffs in an mobile IP environment wherein the architecture includes encapsulation and de-capsulation (section 2, page 344, left and right column), mobile IP tunneling and re-transmission (IP-in-IP encapsulation) (section 3.1) between a first FA/base station and a second FA/base, wherein a mobile is serviced by both first and second FA, encapsulation and de-encapsulation of packet data, which includes a process of adding IP headers and stripping of the IP header as it is associated with encapsulation process and the transmission of packets to mobile node or agent, whereby transmission is via connection link/handoff, handoff enhancement in a mobile IP environment wherein the tunneling between HA, FA, MH and corresponding host includes encapsulation and de-encapsulation processing wherein encapsulation is removed and data-grams are forwarded to MH, whereby encapsulation occurs during handoff, data-grams associated with encapsulation and de-encapsulation process are transmitted during hand-off.

Although Perkins, Comstock and Woo are silent on the IP network being part of a CDMA network, in a Wireless Mobile IP environment, La Porta discloses packet tunneling optimization, whereby handoffs are communicated between new and old devices, which can be implemented in a CDMA environment (paragraphs 0091, 0092).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a CDMA network associated with an

Wireless Mobile IP environment as taught by La Porta with the combined teachings of Perkins, Comstock and Woo for the purpose of further improving handoffs in a mobile IP environment.

4: Claim 41, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al (Non-Patent Literature) in view of Comstock (US Pat 6,452,920) and Woo et al (Non-Patent Literature) as applied to claims 3 and 23 above, and further in view of Seal et al (Non-Patent Literature).

Regarding claim 41, 44 and 45, as indicated above, combined Perkins, Comstock and Woo discloses optimizing smooth handoffs in an mobile IP environment wherein the architecture includes encapsulation and de-capsulation (section 2, page 344, left and right column), mobile IP tunneling and re-transmission (IP-in-IP encapsulation) (section 3.1) between a first FA/base station and a second FA/base, wherein a mobile is serviced by both first and second FA, encapsulation and de-encapsulation of packet data, which includes a process of adding IP headers and stripping of the IP header as it is associated with encapsulation process and the transmission of packets to mobile node or agent, whereby transmission is via connection link/handoff, handoff enhancement in a mobile IP environment wherein the tunneling between HA, FA, MH and corresponding host includes encapsulation and de-encapsulation processing wherein encapsulation is removed and data-grams are forwarded to MH, whereby encapsulation occurs during handoff, data-grams associated with encapsulation and de-encapsulation process are transmitted during hand-off.

Although Perkins, Comstock and Woo are not clear on a header including an option field that represents time for transmission, in a wireless mobile computing

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environment, Seal discloses coding and decoding as associated in communicating packet data, wherein headers can obtain optional fields that include PCR field, which is used for timing in the transport of packet data (page 58, left column, 4th and 5th paragraph, right column, last paragraph, page 59, first paragraph).


Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a header including an option field that represents time for transmission as taught by Seal with the combined teachings of Perkins, Comstock and Woo for the purpose of further improving handoffs in a mobile IP environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones
July 17, 2007


7/17/07
WING CHAN
SUPERVISORY PATENT EXAMINER